

Notice of Allowability

Application No.

10/086,625

Examiner

James P. Hughes

Applicant(s)

KOCHI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on May 24, 2004.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 04 March 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

1. Claims 20-25 which are drawn to a non-elected invention are cancelled.

Authorization for this examiner's amendment was given in a telephone interview with Glenn Law Reg. # 34,371 on June 18, 2004.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on three applications filed in Japan on March 6, 2001. It is noted, however, that applicant has not filed certified copies of the applications as required by 35 U.S.C. 119(b).

Claim Objections

3. The amendments and arguments presented in the amendment filed on May 24, 2004 have overcome the various claim objections set forth in the Office Action mailed on February 25, 2004.

Claim Rejections - 35 USC § 112

4. The amendments and arguments presented in the amendment filed on May 24, 2004 have overcome the 35 USC 112 rejections set forth in the Office Action mailed on February 25, 2004.

Allowable Subject Matter

5. Claims 1-19 are allowed. The following is an examiner's statement of reasons for allowance. Independent claim 1 is allowed because the prior art of record fails to teach or fairly suggest an apparatus, or means for, an electron beam device wherein, in combination with the other recited limitations in the claim, said data correcting section comprises: a rectifying parameters acquiring means for acquiring rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam, and lens distortion correcting parameters for correcting the lens distortion of said electron optical system. Claims 2-7 are allowed by virtue of their dependence on claim 1.

Independent claim 8 is allowed because the prior art of record fails to teach or fairly suggest an apparatus, or means for, a data processing device for an electron beam device comprising, in combination with the other recited limitations in the claim, a rectifying parameter acquiring means for acquiring rectifying parameters at relative tilt angles between said specimen holder and an incident electron beam, and lens distortion correcting parameters for correcting lens distortion of said electron optical system. Claim 9 is allowed by virtue of its dependence on claim 8.

Independent claims 10 and 11 are allowed because the prior art of record fails to teach or fairly suggest a method, or means for, forming three-dimensional data of an electron beam

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device for measuring the shape of a specimen comprising, in combination with the other recited limitations in the claims, correcting said first and second detection data into rectified data with rectifying parameters at relative tilt angles between said specimen holder and an incident electron beam, and lens distortion correcting parameters for correcting lens distortion of said electron optical system, based on said reference marks.

Independent claim 12 is allowed because the prior art of record fails to teach or fairly suggest an apparatus, or means for, forming three-dimensional data of an electron beam device for measuring the shape of a specimen comprising, in combination with the other recited limitations in the claim, an image data rectifying means that corrects differences in distortion and in scale due to said tilt angles contained in the data detected at said different tilt angles using said acquired rectifying parameters and said lens distortion correction parameters. Claims 13-17 are allowed by virtue of their dependence on claim 12.

Independent claim 18 is allowed because the prior art of record fails to teach or fairly suggest a method, or means for, a method of measuring a specimen in three dimensions using an electron beam device comprising, in combination with the other recited limitations in the claim, correcting said first and second detection data into rectified data with rectifying parameters at relative tilt angles between said specimen holder and said incident electron beam, and lens distortion correcting parameters for correcting lens distortion of said electron optical system based on said rectifying parameters acquired.

Independent claim 19 is allowed because the prior art of record fails to teach or fairly suggest a method, or means for, a method of measuring a specimen in three dimensions using an electron beam device comprising, in combination with the other recited limitations in the claim,

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acquiring using said reference marks, rectifying parameters for correcting the differences in distortion and in scale, due to differences in said first and second relative tilt angles and contained in said first and second detection data; detecting first and second detection data related to said specimen with said electron beam detection section under conditions of first and second relative tilt angles between said specimen holder and said incident electron beam; and measuring the shape of said specimen in three dimensions in the state of the differences in distortion and scale due to differences in said first and second relative tilt angles, as corrected by said rectifying parameters.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suganuma (3,585,382) teaches a stereo-scanning electron microscope yielding a three dimensional image. (Abstract) Mizuno (5,777,327) teaches a pattern shape for displaying and inspecting a pattern wherein at least one of the image parameters of the specimen image and the reference image is corrected to aid the comparison. (Abstract)

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is 571-272-2474. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James P. Hughes
Patent Examiner
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JPH


NIKITA WELLS
PRIMARY EXAMINER

06/21/04